

# Carpal Tunnel

## Summary Sheet

### Evidence-Based Assessment of Acupuncture Series

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#### Carpal Tunnel Syndrome Overview

Carpal Tunnel Syndrome (CTS) affects ~4% of the U.S. population with higher incidence in women and among laborers.<sup>1-3</sup> It is reported as the #5 condition leading to chronic pain and is exceeded only by low back pain as a cause of employee absenteeism.<sup>4,5</sup>

The cause of CTS is thought to be a structural predisposition combined with trauma or overuse, leading to swelling and subsequent compression of the median nerve.<sup>6</sup> A range of symptoms can occur, primarily in the first three fingers, including pain, numbness, weakness, increased sensitivity to touch, and muscle loss.<sup>7</sup> While repetitive activity is a major risk factor, others do exist, including: diabetes, thyroid disease, pregnancy and psychosocial factors.<sup>2</sup>

The 2009 guidelines developed by the American Academy of Orthopedic Surgeons suggest non-invasive procedures prior to surgery (such as splinting, steroids, and even acupuncture) and call for further research into these (and other) options.<sup>8</sup>

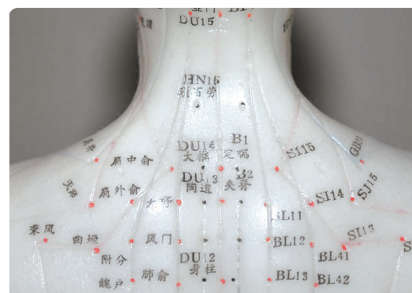
*“Where there is free flow there is no pain, where there is pain there is no free flow.”*

#### Carpal Tunnel Syndrome in Traditional Chinese Medicine (TCM)

TCM practitioners view the body in terms of *Qi*-dynamics and use unique and specific terminology. This is best summarized by the axiom *“one pattern many diseases, one disease many patterns;”* suggesting that identification of the correct pattern (e.g., Kidney *qi* deficiency) leads to improved patient care through the selection of pattern-specific acupuncture points.

In the case of CTS, the TCM practitioner may consider three factors: 1) obstruction of the channels due to a) strain or injury, and/or b) ‘*Bi syndrome*’; 2) underlying organ system deficiency, and; 3) blood stasis. Not all factors will necessarily be present in all patients.

Generally speaking, patients can expect acupuncture performed both local to the area of pain and distally, with the goal of relaxing the muscles and opening the meridians.<sup>9</sup> In addition to acupuncture, treatments may also include local massage, moxibustion (heat therapy), and home therapies such as topical herbal analgesics.



#### Findings from the Acupuncture Research

**Based on the evidence, acupuncture is promising for the treatment of carpal tunnel syndrome; additional research is needed.**

- The most recent review concluded that the evidence is encouraging but not convincing.<sup>10</sup>
- This evidence is supported by investigations demonstrating enhanced brain adaptations (fMRI).<sup>11,12</sup>
  - Acupuncture led to improvements in CTS patients' objective and subjective symptoms.<sup>12</sup>
  - Patient symptoms correlated with improvements in brain-mapped areas (fMRI-detected) corresponding to numbness/tingling symptoms in the fingers.<sup>12</sup>

#### Summary and Commentary

CTS is a common condition with a high incidence of individuals reporting it as the cause of their chronic pain (#5 reason).<sup>1</sup> Non-surgical therapies such as splinting and steroids are most often prescribed as initial therapy, yet research suggests benefits are temporary.<sup>8</sup> The most recent treatment guideline (NY Workers' Comp. Board) suggests acupuncture for patients who do not respond to splinting and activity modification (first-choice care).<sup>8,13</sup> Although the most recent evidence from clinical research suggests that acupuncture is promising, more studies are needed.<sup>10</sup> The recommendation outlined by the NY Workers' Comp. Board (10 acupuncture sessions) is similar to those utilized in the clinical trials. To generalize, participants most often received acupuncture treatment twice per week for 4-6 weeks.

## Scope and Purpose of Evidence-Based Assessment of Acupuncture Project

This project is supported by the Society for Acupuncture Research. It includes a growing library of condition specific assessments and summary sheets on topics such as dysmenorrhea, low back pain, neck pain, etc. Our aim is to evaluate the literature with a focus on systematic reviews and randomized controlled trials. When appropriate, other levels of evidence (e.g. case studies) are also referenced. The goal of the project is to inform policy-makers, clinicians, and the public of trends in the acupuncture literature and to provide expert commentary on the state of this evidence.

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