



# Suspect carpal tunnel? Try this

## An easy-to-administer modification of the traditional Phalen's test for carpal tunnel syndrome increases the value of this diagnostic tool.

### PRACTICE CHANGER

For best results, use the modified Phalen's test (MPT) rather than the traditional Phalen's when you suspect carpal tunnel syndrome (CTS).<sup>1</sup>

Billkis S, Loveman DM, Eldridge JA, et al. Modified Phalen's test as an aid in diagnosing carpal tunnel syndrome. *Arthritis Care Res.* 2012;64:287-289.

### STRENGTH OF RECOMMENDATION

**B:** Based on a single diagnostic cohort study.

### ILLUSTRATIVE CASE

A 60-year-old assembly line worker reports bilateral hand numbness and tingling that frequently awaken her at night. What is the best office test to determine if she has CTS?

**C**TS is one of the most common causes of disability in the United States.<sup>2</sup> Among patients with hand paresthesias, one in 5 has CTS.<sup>2</sup> Factory workers whose jobs involve repetitive hand movements, females, and the elderly are at increased risk.<sup>3</sup> If left untreated, the symptoms are likely to become constant, with thenar muscle wasting and weakness.

### Traditional diagnostic test has only 50% sensitivity

In the traditional Phalen's test (TPT)—commonly used in an office setting—the patient holds his or her wrists in a position of fixed flexion for one minute. The onset of paresthesias is considered a positive result.

The TPT was found in the study reported here to be 100% specific;<sup>1</sup> however, other

studies have found a wider range of specificity (33%-86%).<sup>4</sup> The TPT has a sensitivity of only 50%, which increases the risk that cases of CTS will be missed. This is an important consideration because establishing a diagnosis early in the course of CTS has been shown to minimize disability.<sup>5</sup>

### STUDY SUMMARY

#### Modified Phalen's has higher sensitivity

Billkis et al developed a modified Phalen's test (MPT) and compared it with the TPT, as well as with electrodiagnostic studies (EDS)—the gold standard for CTS diagnosis. The MPT begins with the TPT position and adds sensory testing with a Semmes-Weinstein 2.83-unit monofilament.

The filament is applied perpendicular to the palmar and lateral surface of each distal finger 3 times, with enough pressure to bend the monofilament. In this study, the test was considered positive if the patient did not feel the monofilament in any finger along the distribution of the median nerve. The MPT was negative if the patient correctly reported being touched along this distribution. The fifth, or "pinkie," finger, which is less likely to be affected by CTS, was used as a control.

Participants in the study were adult patients—mostly women between the ages of 27 and 88 years—at a neurology clinic. Exclusion criteria included cervical radiculopathy, a history of stroke, diabetes mellitus, and concomitant neck injury. A total of 66 hands (and 37 participants) underwent TPT and

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### WATCH THE VIDEO



See how the modified Phalen's test is done at [jfponline.com](http://jfponline.com)

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**>**  
**The modified Phalen's test correctly identified 39 of 46 cases of carpal tunnel syndrome; the traditional test identified only 23.**

MPT testing by trained examiners, followed by EDS to confirm the findings.

EDS found evidence of CTS in 46 of the 66 hands studied. The MPT correctly identified 39 of the 46, while the TPT correctly identified 23. Both the traditional and the modified Phalen's were found to be 100% specific, but the sensitivity of the MPT was 85% (95% confidence interval [CI], 71%-93%), compared with 50% (95% CI, 35%-65%) for the TPT.

**WHAT'S NEW**

**Better results can be achieved in seconds**

The addition of monofilament testing to the TPT increases the sensitivity in identifying CTS. The MPT is simple to learn (watch the video on [jfponline.com](http://jfponline.com)) and, based on our observations, adds only about 10 to 15 seconds to the clinical exam.

**CAVEATS**

**Modification is untested in primary care**

A diagnosis of CTS is rarely made on the basis of one test, but rather on a set of signs, symptoms, and physical exam maneuvers. The added value of the MPT needs to be evaluated in the larger context of the comprehensive clinical examination for CTS.<sup>6</sup>

Notably, the study participants were seen in a neurology clinic, which suggests that they may have had more advanced CTS than typical primary care patients. That would help explain the 100% specificity of both the traditional and modified tests reported by the researchers. The sensitivity of the MPT may therefore be lower in a family physician's office because the spectrum of disease may be wider. Another study is needed to evaluate the performance of the MPT in a primary care setting.

The monofilament used (Semmes-Weinstein 2.83) is not the same as the typical 5.07 (10-g) monofilament used in diabetic foot screenings. Using this heavier monofilament with a stronger pressure point would likely decrease the sensitivity of the MPT.

**CHALLENGES TO IMPLEMENTATION**

**Taking the time, obtaining the monofilament**

Additional time to obtain the correct monofilament and administer the MPT are the key challenges to implementation. **JFP**

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