



WORKPLACE ERGONOMICS NEWS

November 2007

In-Office CTS Test Still Fighting for Acceptance

Can the reimbursement woes of highly praised NC-stat be solved?

The company behind a hand-held, FDA 510(k)-cleared automated nerve conduction testing device that is used by thousands of U.S. doctors to diagnose Carpal Tunnel Syndrome (CTS) is still trying to prove its value to insurers. NeuroMetrix Inc. of Waltham, Mass., said July 31 that about 16,000 physicians use the NC-stat device in their practices, even as NeuroMetrix works to overcome reimbursement challenges. Insurers still regard the device as experimental and investigational, which is causing the company's physician customers "to experience higher levels of claims denials, longer periods of time to receive reimbursement and an overall environment of uncertainty," NeuroMetrix President and CEO Dr. Shai Gozani said in the July 31 2Q 2007 earnings release.

The older, more accepted testing technology is an intramuscular electromyogram (EMG), in which needle electrodes are inserted through the skin into muscle to test the muscles' electrical activity.

Dr. Steve Helgemo, a hand surgeon in private practice in Port Charlotte, Fla., said he's been using



the NC-stat with great success for about five years. "I use it very often. I don't use the older methods; I haven't found a need to," he said in a Sept. 17 interview. "I will in more complicated cases refer to neurologists who have the older methods available to them."

Asked about the controversy about NC-stat's reimbursement status, he replied, "I think a lot of that's been cleared up. There's been enough peer-reviewed data for it to confirm its reliability and consistency in terms of really providing equivalent information to

the traditional techniques. It's not an EMG system, so it won't give you that sort of information. But in terms of nerve conduction testing, it's at least as consistent as the traditional techniques. Having still get patients referred to me by neurologists and physiatrists that use the traditional techniques, I can say that not only do the results correlate, but I think they're very consistent."

"The patients love it," Helgemo continued. "That's probably one of the nicest things about it."

He has practiced for 10 years and tried another office-based nerve conduction testing system during his hand surgery training, finding it very inconsistent. That device was soon discarded. After his introduction to the NC-stat five years ago, he said, he believed the instructions and technique could be consistently done with minimal staff training, which has proved to be the case. Sensors are prepackaged and while there is some arbitrariness in how testers place the sensors, the instructions are clear and easy to follow, Helgemo said. "I've probably had seven or eight different people in the last five years that have done the test, and although there has been a very small learning curve in the beginning, they've picked up on it very quickly, and the patients have loved it." (Helgemo is not on NeuroMetrix's payroll and pays full price for their equipment.)

Anyone who calls his office with complaints of tingling, numbness, or CTS-type symptoms is brought in and given the test before seeing Helgemo. He talks with the patient and examines him or her before looking at the test results, then checks them to see whether they confirm his conclusions. "I use the test for a number of things: I use the test to confirm the diagnosis, I use the test to look for alternative diagnoses, and I use the test as a baseline for prognostic purposes. Probably, for me, that is the biggest benefit," he said.

He does not use the device as a screening tool, and NeuroMetrix also does not recommend it for that purpose, Helgemo said. If the NC-stat test doesn't line up exactly with his own diagnosis, he typically chooses non-surgical treatment—a cortisone injection and/or a brace the patient wears.

"Some people can have a severe form of carpal tunnel syndrome and have it for a month, and some people can have a mild form of carpal tunnel syndrome and have it for 10 years. You've got to be careful about using one piece of information and leaning too hard on it," he said. "If people use this test and any sort of one clinical parameter as justification for one type of treatment and don't consider the whole picture, those are the patients who end up being for the most part unhappy with the treatment. I've seen people who don't have Carpal Tunnel Syndrome but have positive tests. I've seen people who have Carpal Tunnel Syndrome with negative tests. So I have to take all those things into account."

THREE CATEGORIES OF CTS PATIENTS

Helgemo said he groups CTS patients into three categories:

- ▶ Mild, characterized by intermittent, fairly mild symptoms, recent onset, and in most cases normal or mildly abnormal tests. A splint

and/or injections are recommended for them; Helgemo said he is seeking complete resolution of symptoms. "What I've also seen with these people is, if you incompletely treat carpal tunnel, even mild carpal tunnel, someone can come back in six months or a year and go from a mild case to a severe case and not really even be aware of it," he said.

- ▶ Moderate, characterized by positive tests, a physical exam, and a history all in agreement. These are the best surgical candidates because most have sustained, permanent nerve damage. In nearly every case, these patients have complete or nearly complete resolution of symptoms quite promptly—immediately, in many cases.

- ▶ Severe, and these patients may already have suffered permanent damage. The NC-stat helps by documenting the severe compression of the median nerve on nerve conduction testing. Clinical and physical exams and the patient's history often agree with that, as well. Surgery can help these people get rid of nuisance symptoms, such as pain and tingling, but if they've had muscle atrophy and true loss of sensation, he counsels that they may not see complete resolution of symptoms, and it may be a slow process.

Most patients who come in to be seen are not aware of the category in which they fall, he said. This is because of wide variation in people's tolerance levels and also the slow pace at which nerve compression typically progresses. The patients who have the hardest time may not have experienced symptoms, with the nerve damage happening so slowly they haven't been aware of it.

Helgemo estimated he treats about 1,000 CTS patients per year. NC-stat is useful in aiding patients' return to work because he uses its data to counsel patients in knowing what to expect after treatment.

"It's tremendously high [nationally]," he said of CTS. Helgemo said he once was "kind of laissez faire" about mild cases, but no longer. He tells these patients, "I want this to go away, and you don't want to progress to a more serious case." With the NC-stat results, he can counsel them ahead of time that their nuisance symptoms will go away, and once they've had time to heal from the surgery, they can go back to work regardless whether their hand feels normal. "Your hand doesn't have to feel perfect for you to return to work," he explains to them.

COSTS OF TREATMENT ENCOURAGE EARLY DIAGNOSIS

Surgery costs \$2,500 to \$3,000, while non-surgical treatment is much cheaper, on the order

of \$50 for the brace and \$100 for the cortisone injection. "In terms of getting people back to using their hand, though, I don't really let the cost impact on what I'm going to do for somebody. I've found that my protocol in terms of deciding the appropriate treatment works out for the best in the working and the non-working patient," Helgemo said.

"My educational message to the public around here is that your hand's falling asleep is not a normal thing. It's not something that happens normally with age. If you're having it happen once a week

or something like that, that's not a big deal. But any sort of regular, consistent hands falling asleep or getting tingly is just not normal... When you start having those symptoms, go get evaluated for it. The NC-stat is a big part of the evaluation.

"What it's done for me in some cases is I've had people describe their symptoms as being fairly mild but turn out to have severe compression on the test. Which tells me that it's back to that variation: It takes a lot to get some people's attention, and some people are very tuned in to their symptoms."

Courtesy: *Occupational Health & Safety* (www.ohsonline.com)

