# TMS TRENDS

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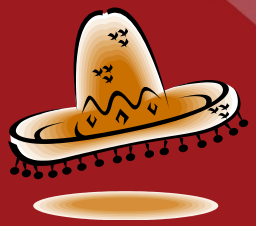

## STROKE RECOVERY: A NEW DIRECTION FOR TMS THERAPY?

Although TMS Therapy is gaining a lot of recognition for its efficacy in treating unipolar depression, many of its off-label uses have been explored as well, as has been discussed in previous issues of the Trends.

One such off-label use has been in post-stroke recovery.

A recent pilot study looked at the efficiency of adding TMS Therapy to a motor control recovery regimen for stroke victims. Of the thirty participants in the Contrastim Stroke Study, almost half in the group that received TMS attained clinically significant improvement compared with the third of participants in the sham-TMS group who improved to a significant extent.

The theory behind this application of TMS is that stimulating the hemisphere that has not suffered from stroke will restore balance to the two hemispheres in terms of levels of cortical excitability and enable faster recovery.

## KETAMINE: AN EXCITING NEW ANTIDEPRESSANT TREATMENT

Recently, there has been great interest in the news regarding the use of ketamine for the treatment of major depression. This anesthetic agent used either intravenously or intranasally has been shown to relieve depression in as little as several minutes to hours after its administration. Studies are being conducted throughout the U.S., including one at the Massachusetts General Hospital evaluating the use of ketamine during ECT.

We will be actively following developments on the use of ketamine for treatment resistant depression, including its use with TMS.

## BETTER THAN COFFEE?

At the Pentagon, the U.S. military is exploring different options for maintaining alertness in soldiers: namely, TMS. Many soldiers have already volunteered for the study, which involves being kept awake for 30 consecutive hours and undergoing tests to evaluate resultant awareness and general performance.

Volunteers were divided into groups by type of stimulation received. Among those tested, those that received brain stimulation performed significantly better than those that did not, even the caffeine-stimulated group.

One researcher has been very positive about the findings so far, revealing that the results from the use of TMS have been much more effective than caffeine without the associated side effects or post-caffeine "crash."

Although exact field applications are not yet clear, researchers hope that in the future soldiers on the front lines will be able to carry a set of electrodes to emit electrical pulses, much like the concept behind TMS but in a portable form.

Although this does not have much to do with the work being done here at the TMS Institute of PA, we are always interested to learn of new applications for TMS.