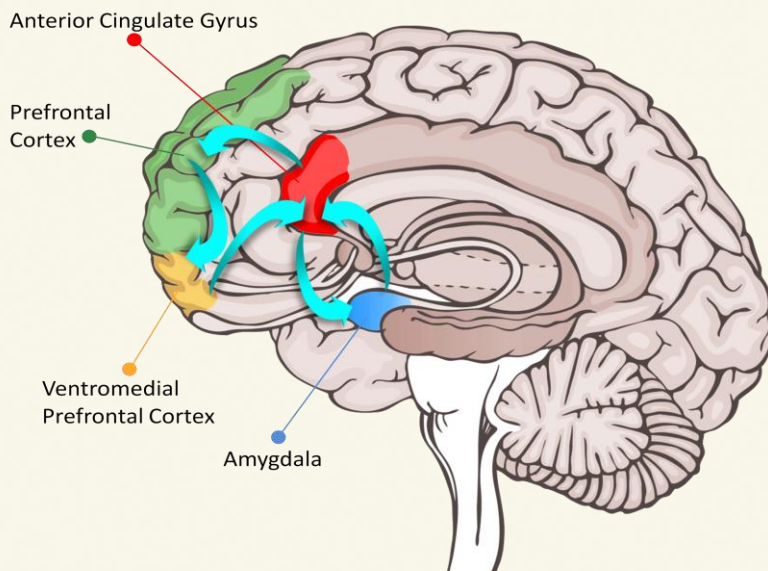


# TMS TRENDS

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## TREATING THE BRAIN AS AN ELECTROCHEMICAL TARGET



### **Major brain regions known to be involved in mood regulation**

The brain is comprised of neurons, which are electrochemical cells. These cells can be affected by chemical interventions (i.e. pharmacological drug use) or through electrical interventions, such as TMS therapy.

While many drugs target a neurochemical receptor in the brain, they circulate systemically through the body and affect many areas that are not the intended target. Conversely, TMS Therapy targets only the intended area in a non-systemic, non-invasive treatment. Therefore, there are fewer adverse events associated with TMS Therapy when compared to common antidepressant medications.

When treating major depression, TMS Therapy targets the left dorsolateral prefrontal cortex, shown above in green. This region, located on the surface of the brain, is one of several important areas involved in mood regulation.

Other important brain areas include deeper, underlying structures such as the anterior cingulate gyrus (red), the ventromedial prefrontal cortex (yellow) and the amygdala (blue).

The blue arrows shown at left represent the connections between these brain areas, all involved in mood regulation. These connections form a brain circuit, allowing various areas to communicate with each other. TMS Therapy can indirectly affect the deeper structures by targeting the dorsolateral prefrontal cortex, which is closely tied to the other structures included in the circuit. Thus, TMS Therapy both directly and indirectly affects the required brain areas in a targeted, non-systemic treatment.

## LOCAL EVENTS

This May, New Directions Delaware, Inc. will be featuring a presentation by Dr. Terrence Boyadjis of the TMS Institute of Pennsylvania. New Directions is an Affiliated Chapter of the Depression and Bipolar Support Alliance (DBSA). The meeting will focus on refractory depression and the role of TMS Therapy in treating treatment resistant depression.

DBSA is a national, not-for-profit organization whose goal is to provide support and information for those affected by depression and bipolar disorder. They offer educational materials, an information hotline, and support groups across the country. For more information, visit [www.dbsalliance.org](http://www.dbsalliance.org).

New Directions Delaware, Inc. is a local affiliate of DBSA. The group, promoting self acceptance, knowledge and an end to stigma, offers support classes twice a month, as well as regularly scheduled educational meetings monthly. More information on local meetings and support groups can be found at [www.newdirectionsdelaware.org](http://www.newdirectionsdelaware.org)