Today’s piece was prepared by Matt Serna, MD, regarding a NY Times article, “[Can Attention Deficit Drugs ‘Normalize’ a Child’s Brain?](http://well.blogs.nytimes.com/2015/02/02/can-attention-deficit-drugs-normalize-a-childs-brain/)”

For some children with attention-deficit/hyperactivity disorder (ADHD), treatment with medication has been found to provide measurable short-term benefit. But can using these medications lead to long-term changes in the brain that outlast the short-term use?

This journalist discusses evidence and expert opinions that children’s brains can “normalize” while taking medicine for their ADHD, and that this normalization can last beyond use of the medicines themselves. Supportive evidence from a 2013 meta-analysis of 29 studies involving brain MRI of patients with ADHD who had taken stimulant medications (first paper referenced below) suggested patients experience anatomic – not simply functional – changes from their medication use.

But contrary evidence suggests that stimulant use can lead to changes in the brain that might *worsen* symptoms once medications are stopped (second paper below). The article notes that testing the normalization hypothesis using a randomized-controlled trial is now unfeasible, given that treatment with medication is considered the clinical standard.

This short article does a good job of presenting different viewpoints on functional and anatomic neurologic changes seen in treatment of ADHD with psychostimulants, emphasizing in the end that, ultimately, medication is simply one small piece of the ADHD treatment puzzle.

Clinicians and patients may be interested in the following resources:

**RESOURCES ON ADHD:**

ADHD – [Hyperlink](https://depts.washington.edu/dbpeds/Resources.html#section4_textarea7_heading) *Several resources for ADHD*

* <https://depts.washington.edu/dbpeds>
* Select ‘Resources’
* Select ‘Attention Deficit Hyperactivity Disorder

Timothy Wilens, MD, Harvard Medical School, [VIDEO](http://www.psychcongress.com/video/are-adhd-medications-neurotoxic-or-neuroprotective-16223) *Discusses evidence for neuroprotection on Psych Congress Network:*

**REFERENCES NOTED:**

Spencer TJ et al. [**Effect of psychostimulants on brain structure and function in ADHD: a qualitative literature review of magnetic resonance imaging-based neuroimaging studies**](http://www.ncbi.nlm.nih.gov/pubmed/24107764)**.** J Clin Psychiatry. 2013 Sep;74(9):902-17. doi: 10.4088/JCP.12r08287.

Swanson JM et al. [**Long-Term Stimulant Treatment Affects Brain Dopamine Transporter Level in Patients with Attention Deficit Hyperactive Disorder**](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3655054/). PLoS One. 2013 May 15;8(5):e63023. doi: 10.1371/journal.pone.0063023. Print 2013.

And that’s today’s Developmental & Behavioral Pediatrics: IN THE NEWS!