

June 2016

The two feature articles of this month's edition of *MCPAP News* comes from the Vista Hill Foundation's SmartCare PC2 behavioral health consultation program in California.

The Link Between PTSD and ADHD

Recent research studies have shown that the risk for Post-Traumatic Stress Disorder (PTSD) is increased by a factor of four in individuals with Attention Deficit Hyperactivity Disorder (ADHD) as compared to those without the disorder. Looking in the other direction, the risk for a diagnosis of ADHD is twice as high in individuals with a PTSD diagnosis, again, as compared to the general population.

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Leadership:

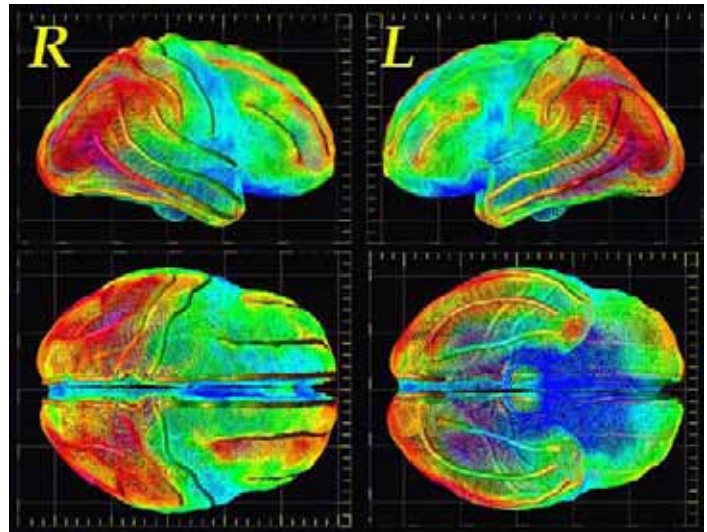
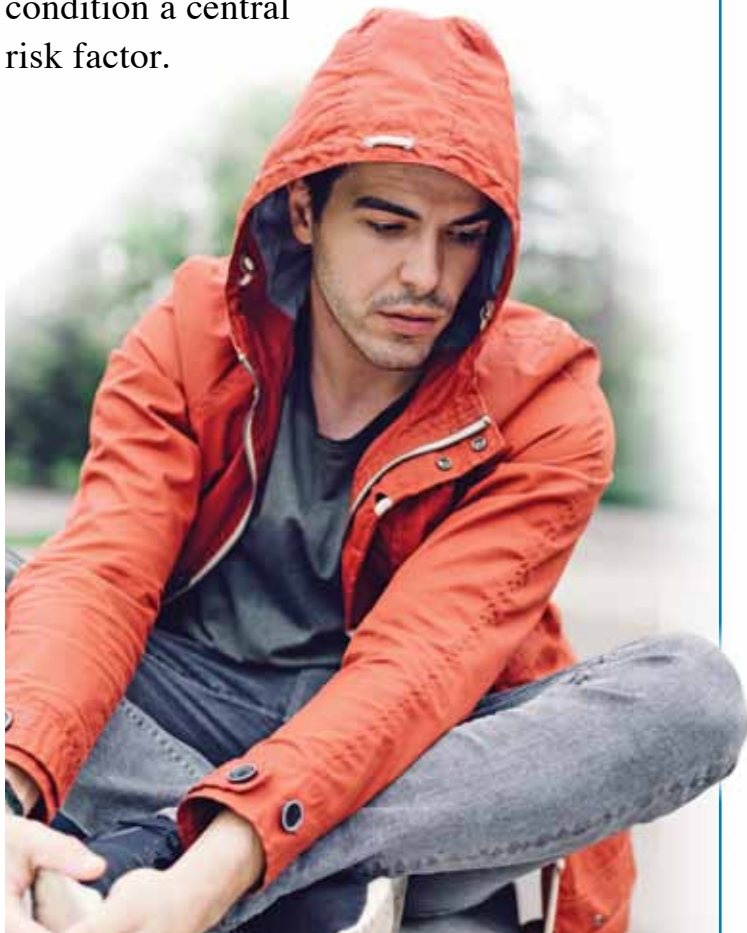
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While trauma exposure sadly is a relatively common phenomenon, given the resilience of most children and the supportiveness of their families, it is fortunate that only a minority of traumatized children go on to develop persistent PTSD symptomatology. This is true (somewhat surprisingly) even when the trauma exposure is relatively severe.

It is now thought that individuals who do develop PTSD may have predisposing risk factors or vulnerabilities that increase their risk, and there is good evidence that ADHD might be one of those predisposing risk factors, with the severity of the ADHD condition a central risk factor.



Neuroimaging photo from www.docs.uabgrid.uab.edu

Emerging studies in neuroimaging and genetic research are starting to provide some clues on these findings.

Neuroimaging studies have shown that irregularities in dopaminergic neurotransmission and findings of prefrontal cortex dysfunction are present in both ADHD and PTSD, leading to the possibility that abnormalities in specific neural circuits may contribute to an increase vulnerability of developing both disorders.

Genomic data has additionally found substantial common genetic variations across these two disorders that are suspected to be potential risk factors. Further research is needed to understand the clinical significance of these findings.

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BOTTOM LINE**So what does all this mean clinically in the pediatric primary care setting?**

- 1 Awareness of the trend toward comorbidity between ADHD and PTSD should alert clinicians treating patients with one disorder to inquire and screen for the other.
- 2 As with many co-morbid situations, the co-occurrence of these two disorders often results in exacerbation of core symptoms of both disorders such as inattention, disorganization, and forgetfulness. Through different channels, both ADHD and PTSD impair working memory and prefrontal cortex function.
- 3 Treating ADHD symptoms with stimulant medications can exacerbate the underlying symptoms of anxiety and trauma arousal in the patient with comorbid states.
- 4 Use of alpha-agonist medications, alone or in conjunction with a stimulant, may be a good strategy for the child or adolescent with trauma reactivity and co-morbid ADHD.

Reference: Examining the Association Between Posttraumatic Stress Disorder and Attention-Deficit/Hyperactivity Disorder: A Systematic Review and Meta-Analysis. A. Spencer, MD, et al; J Clin Psychiatry 2016;77(1):72–83

Psychiatric Issues Related to Contraceptives

Contraceptives are commonly used in many forms (oral, patch, injection, etc.) in women of child-bearing age, many of who also have psychiatric concerns. It is important to be aware of the interactions between contraceptives and certain psychotropic medications as well as the psychiatric side effects of contraceptives themselves.



Contraceptives have synthetic estrogen, progesterone, or a combination of the two. Synthetic estrogen stimulates protein synthesis, which may affect protein binding of certain drugs and inhibits some cytochrome P450 enzymes. Both of these effects can affect blood levels of other medications.

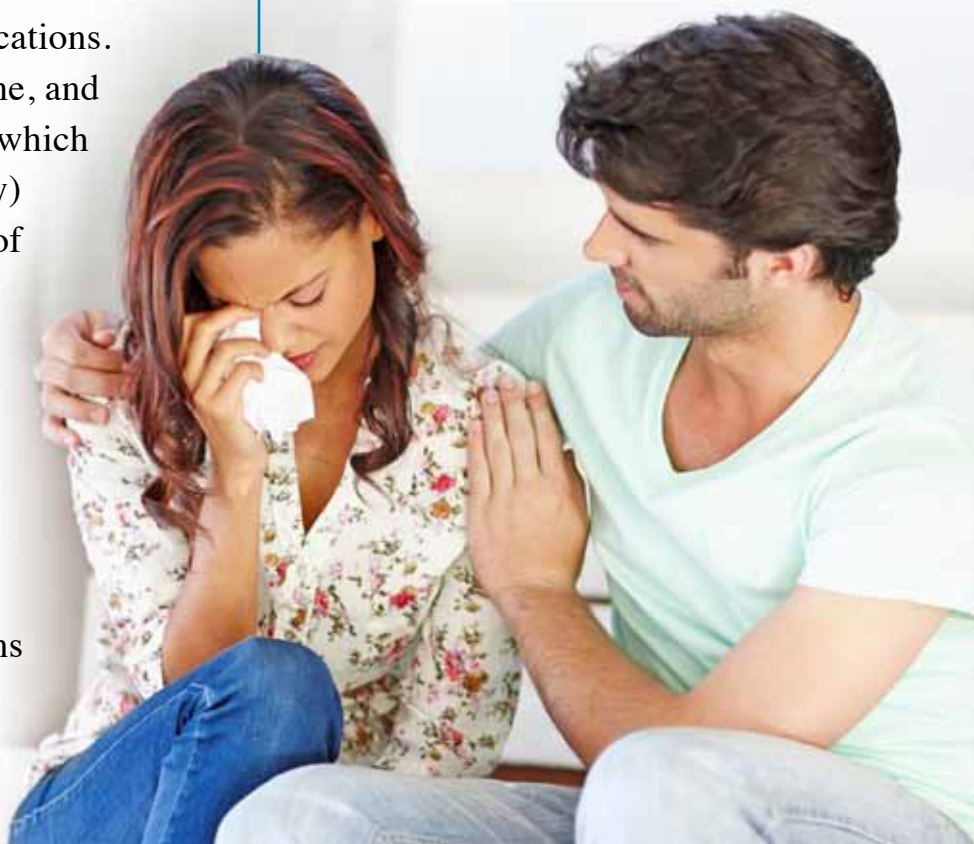
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Oral contraceptives increase the metabolism of some benzodiazepines (lorazepam and temezepam) and decrease the metabolism of others (alprazolam, chlordiazepoxide, and diazepam). Oral contraceptives can inhibit the metabolism of tricyclic levels, which can lead problematic side effects. It does not appear that there are noteworthy drug interactions between oral contraceptives and the SSRIs. There are some case reports that oral contraceptives may potentiate the prolactin response of second-generation antipsychotics and may decrease metabolism of some first-generation antipsychotics, but neither of these has been substantiated in larger scale studies.

Contraceptive medications can be affected by certain psychotropic medications. Carbamazepine, oxcarbazepine, and topiramate (mood stabilizers which induce the P450 3A4 pathway) can increase the metabolism of oral contraceptives (many of which are substrates of the P450 3A4 pathway), thereby reducing their effectiveness. This effect is also seen with vaginal contraceptive rings, because the hormones contained in these preparations are also metabolized by the liver.

In these situations, the patient should either change her contraceptive method or change her mood stabilizer. Contraceptive alternatives include the birth control patch (which largely avoids liver metabolism) and barrier methods. Mood stabilizers like valproate and lamotrigine do not affect oral contraceptives, but lamotrigine clearance is increased with oral contraceptives that contain estrogen. In patients who are taking a traditional mood stabilizer, including Lithium, highly effective contraception is important because these medications can have serious teratogenic effects, particularly in the first trimester, if a patient accidentally becomes pregnant.

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One option is a high-dose oral contraceptive, but because of the complexity of oral contraceptives and some traditional mood stabilizers as well as side effects of high-dose estrogen, it is important to consider non-hormonal approaches as a primary or adjunctive contraception. St. John's Wort (an herbal supplement that many patients take for mild depression) can induce the P450 3A4 pathway, thereby inducing the metabolism of oral contraceptives.

There is some concern that progesterone-only pills and high-dose estrogen pills can lead to or worsen depression, although this has not been studied in a controlled fashion that clearly defines depression and addresses the confounding factors of mood symptoms during various parts of the menstrual cycle. These hormones can increase the metabolism of serotonin in the brain, thereby lowering serotonin levels, which can contribute to depression. It is thought that low-dose combined oral contraceptives have little

risk for causing or worsening depression. However it is important to assess for changes in mood after a patient first starts contraception.

It is our hope that this discussion about the complexities related to psychiatric medication and symptoms with contraceptives is a helpful primer for the primary care setting.

\$100 Amazon.com Gift Card Winners!

Thank you to those who completed our 2016 Annual Provider Experience survey. We had a record response with 554 surveys returned! As promised, two survey responders were randomly selected to receive a \$100 Amazon.com Gift Card as our way of thanking those who completed the survey.

The winners of the two Amazon.com gift cards are: Carl Rosenbloom, MD from Pentucket Pediatrics and Jennifer Hausladen, MD from Cove Pediatrics. Thank you again for your continued support and interest in MCPAP. Look for the highlights from our survey in the August edition of MCPAP News.



MCPAP to Pilot Tele-Psychiatry Videoconferencing

At MCPAP we are aware that there are families and primary care practices that reside far from the physical locations of MCPAP Hubs, creating a barrier for some families needing to access face-to-face visits.



Current technology enables us to overcome these challenges. The new telemedicine technology platforms that are available provide high standards of privacy and security.

We have been working for the past several months to put in place the technology, policies, and processes to facilitate use of secure videoconferencing as an alternative method for providing face-to-face assessments. We will be piloting this new technology with our MCPAP Baystate Hub. MCPAP would like to thank the Baystate Medical Center Information Technology staff and Telemedicine Committee for their assistance and support with implementation. Thanks also go to Macony Pediatrics and Northern Berkshire Pediatrics, located over an hour away from

the Baystate Hub location in Springfield, who have agreed to be our test sites.

Videoconferencing will be used in instances when traditional face-to-face encounters are otherwise challenging due to distance or other obstacles. As usual, the recommendation for a face-to-face consultation may result from a phone consultation with a MCPAP psychiatrist or therapist. However, instead of traveling to the MCPAP hub for the consultation, the patient will return to their PCP's office and use the videoconference platform for the interview. The MCPAP Care Coordinator will schedule a face-to-face visit with the family to take place with a MCPAP psychiatrist and will coordinate scheduling with the PCP's office.

The pilot will run from June through September, after which we hope to be ready to implement secure videoconferencing for all MCPAP teams.



Clinical Conversations Recordings, and Slideshows Available Online!

Log in on July 19 from 12:15-1:15 p.m. to learn more about *Assessing Risk: Preventing Youth Suicide* in the pediatric primary care setting. This will be the last of our Clinical Conversations webinar series for fiscal year 2016. The Clinical Conversations will pick back up in the fall, and a new schedule will be released in the coming months.

Each of these webinars have been recorded and posted on the MCPAP website at www.mcpap.org on the “Archived News and Webinars” page under the “For Providers” tab. You may also download the PowerPoint presentation underneath the link to each recording.

You can register for future webinars by visiting <http://www.mcpap.com/About/NewsNEvents.aspx> and clicking on the webinar(s) that you would like to register for. For any questions regarding the clinical conversations, please contact Mary Houghton at mary.houghton@beaconhealthoptions.com.

July 19 Assessing
Risk: Preventing Youth
Suicide

