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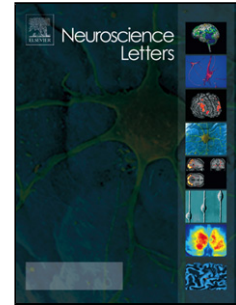
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# **Circuit Dysregulation and Circuit-Based Treatments in Posttraumatic Stress Disorder**

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## **Abstract**

Posttraumatic stress disorder (PTSD) is a psychiatric disorder that develops in some individuals in the aftermath of exposure to traumatic events, such as actual or threatened death, serious injury or sexual assault. It has been hypothesized that dysregulations in a number of specific neurocircuits, characterized by heightened responsivity of amygdala, dACC and insula, diminished responsivity of mPFC, impaired hippocampal function and deficits in cortical regions, underlie the development and expression of key PTSD symptoms. Here, we concisely describe three functional neural circuits implicated in PTSD pathophysiology and briefly review selected treatment strategies in the context of these neural circuits. We start with the commonly implicated neurocircuit model, namely, the fear learning and threat detection circuits, and then discuss the context processing circuitry, which plays an important role among others, in fear regulation. We then discuss the emotion regulation circuitry, which can further contribute to PTSD pathophysiology, and conclude with a discussion of the therapeutic approaches that might be targeting dysregulation in these circuits in PTSD patients.

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