

## **Allostasis and Emotion**

To the Editor:

The recently-described Stress Repair Mechanism (SRM) automatically repairs and maintains vertebrate body structure, but it lacks the ability to adjust to changing environmental circumstances.<sup>1</sup> Therefore its operation cannot explain allostasis, which refers to the ability of vertebrates to adapt to changing environmental allostatic load by altering their hormonal and physiological reactions. Allostasis is explained by the activity of emotional mechanisms in the brain that respond to environmental circumstances and affect SRM and HPA axis operation by altering autonomic balance.

Hyperthymestic Syndrome demonstrates that *the brain automatically retains permanent audiovisual and olfactory memories of all waking events throughout life*, and that these memories can activate emotional mechanisms and sympathetic nervous system activity.<sup>2-4</sup> Conscious awareness of these memories is normally suppressed. During normal sleep the memory recording process halts while the emotional mechanism engages in the process of dreaming, wherein it automatically compares and contrasts previously stored memories to identify, correlate and emphasize threatening events and circumstances.<sup>5</sup> The emotional mechanism thereby facilitates the rapid recognition of hostile environmental circumstances, and elevates sympathetic nervous system tone and activity levels, which activates both the SRM and HPA axis so as to facilitate “fight or flight.”<sup>6-10</sup> This explains the hormone release, tachycardia, hypertension, re-direction of blood flow to essential organs such as heart and brain (which have the ability to resist capillary hemostasis), hyperglycemia and other reactions associated with acute and chronic allostasis, and how these reactions are progressively altered by continually accumulating memory records and ongoing manipulation of these memory records by emotional mechanisms.

Idiopathic Insomnia demonstrates that normal sleep and the dreaming process are not essential for survival in humans, who seldom face the life and death challenges that are commonplace in the animal world.<sup>11</sup> The emotional mechanism plays a much more important survival role in animals, which lack the highly developed cerebral cortex of humans that enables sophisticated reason and logic. However, occult emotional allostasis explains neurosis in humans.

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