

Brain images show menstrual cycle rhythms

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Cornell University scientists say women with no menstrual mood changes may use parts of their brains differently over the course of their menstrual cycles.

Emily Stern of Cornell's Weill Medical College and colleagues studied 12 women chosen for their consistently steady moods.

During the brain imaging experiment, the women saw printed words with either negative, neutral or positive connotations and performed behavioral tasks while the researchers recorded blood oxygen patterns in their brains, which corresponds to increased brain region usage.

The women were tested 1-5 days before menses onset and 8-12 days after menses onset. Premenstrual patterns showed greater activity in frontal brain regions that help control emotions. A reciprocal pattern was seen postmenstrually.

Since the changes weren't reflected in the women's outward emotional states, the researchers speculate the greater allocation of the brain's resources may allow the women to compensate for hormonal changes and maintain a consistent emotional state.

The scientists say the results provide a foundation for studying premenstrual mood disorders and demonstrate brain processes can change across the menstrual cycle.

The study appears in the online early edition of the Proceedings of the

National Academy of Sciences.

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