How a jab to the ribs jolts the brain into action

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Credit: AI-generated image (disclaimer)

A short jab in the ribs instantly arouses a drowsy colleague during a long and dreary work meeting. A new study by Yale neurobiologists describes just what happens in the brain immediately following that jab that allows enhanced information processing.

An analysis of electrical activity in the visual cortex of a mouse shows that a single puff of air to the back of a resting mouse suppresses extraneous brain activity and allows the animal to focus on the environment. The researchers also found that simple arousal, such as from an elbow to the ribs, can explain much of the alteration of cortical activity that had been previously associated with physical activity.

"This transition to an arousal state can be profoundly disrupted in mental disorders such as autism and schizophrenia, and we want to understand how this mechanism works during healthy states and becomes broken during disease," said Jessica Cardin, senior author and investigator for the Kavli Institute of Neuroscience at Yale.

The findings were reported April 16 in the journal *Neuron*.

Provided by Yale University

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