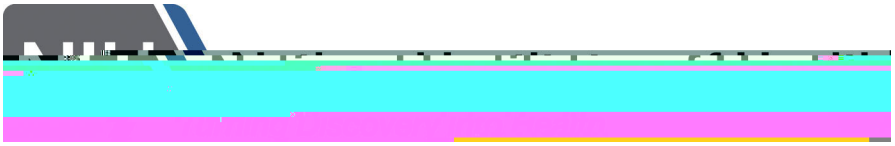
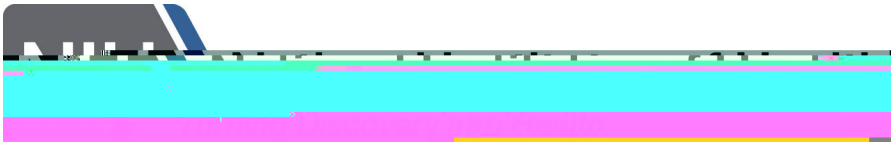
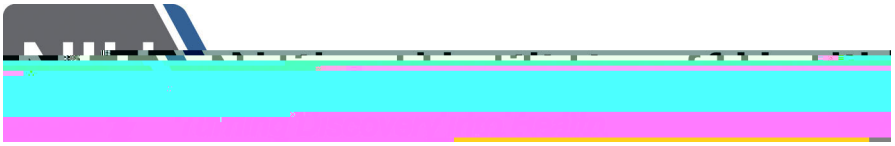


2019 Research Highlights

With NIH support, scientists across the United States and around the world conduct wide-ranging

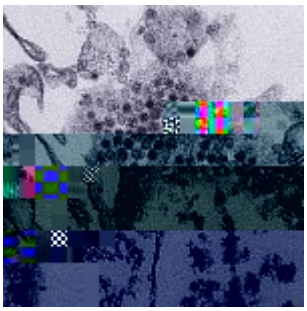




Advances in flu treatment

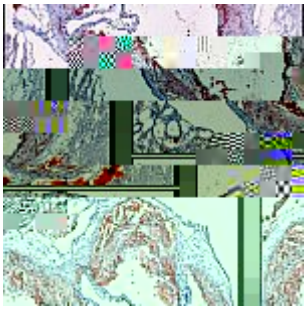
Basic Research Insights

Noteworthy Advances in Fundamental Research



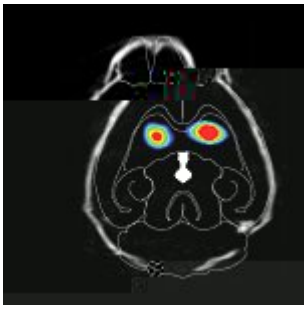
[Enterovirus infection linked to acute flaccid myelitis]

Since 2014, hundreds of children in the U.S. have been afflicted with a condition called acute flaccid myelitis (AFM), which can cause paralysis. Researchers have not yet found the cause of AFM. This makes it difficult to develop prevention and treatment strategies. In a new study, evidence of infection with an enterovirus was found in about 80% of people with AFM. More work is needed to understand whether enterovirus infection contributes to AFM.



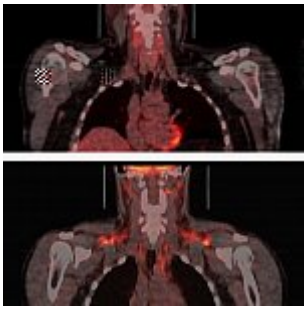
[How disrupted sleep may lead to heart disease]

Studies have linked poor sleep to an increased risk of heart disease and other health conditions. But the molecular mechanisms underlying the link between sleep and heart disease has been unclear. Researchers found that sleep disruption activates a molecule that triggers inflammation and leads to fatty buildup in mouse arteries. The findings underscore the importance of getting enough quality sleep to maintain heart health. It also suggests new targets for fighting heart disease.



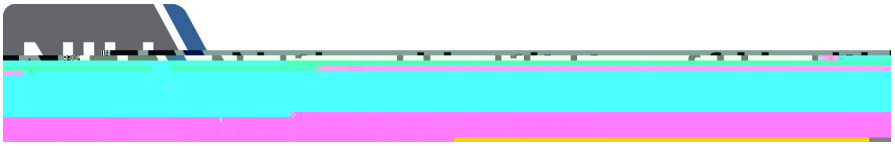
[Tracking the spread of Parkinson's proteins from gut to brain]

The brains of people with Parkinson's disease contain abnormal clumps largely made up of the protein alpha-synuclein. Abnormal clusters of alpha-synuclein have also been found in the guts of people with Parkinson's disease. Researchers were able to track alpha-synuclein from the gut to the brain by way of the vagus nerve in mice. Finding a way to stop the spread of this protein from gut to brain might help prevent Parkinson's disease in people.



[How brown fat improves metabolism]

Brown fat breaks down blood sugar and fat molecules to create heat and help maintain body temperature. Researchers have been working to harness brown fat's activity in order to treat metabolic diseases. A new study in mice provided key insights into brown fat's effects on the body's metabolism. The findings reveal molecular targets for developing new treatments for obesity, diabetes, and other metabolic disorders.



Blocking a pathway to heart failure
More than 5.6 million